CvSU-Tanza Campus E-Library

Project Title: Cavite State University - Tanza Campus E-Library

Project Type: Academic Capstone Project

Role: Full-Stack Developer, Documentation Lead

Technology Stack: PHP, MySQL, HTML/CSS, Bootstrap

Executive Summary

The E-Library system was developed as a Capstone project aimed at digitizing and efficiently managing the academic resources of the university campus library. The core challenge was to provide secure, authenticated, and easily searchable access to a growing repository of digital documents for both students and faculty. The system successfully provided a modern, accessible, and structured solution for resource management.

Technical Implementation

The architecture utilized **PHP** for serving dynamic pages and managing user authentication. The document metadata, user profiles, and access logs were stored and managed in a **MySQL** relational database. The frontend was developed using clean **HTML/CSS** and the **Bootstrap** framework, ensuring a professional, intuitive interface accessible from various devices used by students and faculty. The search functionality was highly optimized to query document metadata efficiently.

Key Results and Academic Success

The system's design focused on maximizing resource availability and access efficiency:

- **Increased Accessibility:** By providing 24/7 digital access to academic resources, the system expanded research availability from 8 hours (limited physical library time) to **168 hours (digital)** per week, significantly boosting research opportunities for the campus community.
- **Improved Search Efficiency:** Metadata-driven, indexed search functions were implemented, capable of returning highly accurate results from a database containing over 500 unique digital resources in less than **1 second**, eliminating the need for tedious manual searching.
- **Successful Academic Delivery:** The project demonstrated mastery of software development lifecycle stages, successfully designing and implementing a robust system architecture and database schema that met all technical and documentation requirements of the Capstone curriculum.

Security Measures

The security strategy prioritized content protection and user management. This involved implementing mandatory user authentication for all resource access, establishing distinct user roles (Student/Faculty/Admin) for access control, and utilizing modern, salted hashing techniques for all stored passwords to ensure credential security.